

ABSTRACT

The present invention relates to methods for protecting a data signal using the following techniques: applying a data reduction technique to reduce the data signal into a reduced data signal; subtracting the reduced data signal from the data signal to produce a remainder signal; embedding a first watermark into the reduced data signal to produce a watermarked, reduced data signal; and adding the watermarked, reduced data signal to the remainder signal to produce an output signal. A second watermark may be embedded into the remainder signal before the final addition step. Further, cryptographic techniques may be used to encrypt the reduced data signals and to encrypt the remainder signals before the final addition step. The present invention also relates to systems for securing a data signal. Such systems may include computer devices for applying a data reduction technique to reduce the data signal into a reduced data signal and means to subtract the reduced data signal from the data signal to produce a remainder signal. Such systems may include means to apply a first cryptographic technique to encrypt the reduced data signal to produce an encrypted, reduced data signal and means to apply a second cryptographic technique to encrypt the remainder signal to produce an encrypted remainder signal; and means to add the encrypted, reduced data signal to the encrypted remainder signal to produce an output signal.

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